

A Digital Device to Measure Distance on Multiple Surfaces

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Measurements are one of the daily procedures to separate the needed length in apparel industries. Measuring tape is the only available method for this process now a days. Even shoulder measurements in tailor shop is taken by measuring tape too. This might consumes time and causes error while taking measurements quickly. So there is a need for the independent measuring system to solve this deficiency. A pen like structure of diameter 3.5cm cylindrical wooden bar was cut and further diameter of 2cm was drilled in that where the components were set. A Keyes KY-040, rotary encoder was used to count the rotation was attached to the end of the cylinder. Smooth surface and rough surface shaped disc were made using 3D printers and those models were designed using SolidWorks software. These discs can be attached to the encoder shaft according to the surface where the device is used. Arduino Nano was used as microcontroller for performing algorithmic work. Liquid crystal display was used to display the output measurement. This measurement can be displayed in Centimeter, Foot and Inch scales at the press of a button. Error corrections were done according to the measurements obtained from the Measuring device. 96% percentage accuracy was obtained on the random measurements

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